



## Pharmacopeia Module 15

[Lemon \(Citrus limonum\)](#)

[Lemongrass \(Cymbopogon citratus\)](#)

[Lime \(Citrus aurentifolia\)](#)

## **Lemon (*Citrus limonum*)**

### **Overview:**

Lemon is a perennial, medium size tree, belonging to the Citrus genus and part of the Rutaceae family and native to various areas around the world with sub-tropical and tropical climates. The lemon fruit is rich in vitamin C and is extensively used in the food and beverage industry. Preparations of the fruit and its skin have been used therapeutically for ages, even since the Greek and Roman empires. Its juice was used as a dietary supplement helpful against scurvy and helpful in anemia.

The essential oil is pressed out from the fruit peel. It takes several hundred kilograms of peel to produce 1 kilogram of essential oil, depending on the yield. It has pale yellow color and a thin, mobile texture. Lemon essential oil has potent antibacterial, antifungal, antiseptic and antiviral properties. Lemon scent is one of the most easily recognizable scents. In aromatherapy lemon essential oil is balancing and uplifting. As most of the citric essential oil it is a good addition in a blend, because it enhances the properties of other oils and goes along perfectly with their scents. Pure lemon essential oil is potentially aggressive to the skin and can be phototoxic, which is why a high dilution (1%) is recommended for use.

### **Therapeutic Actions and Benefits:**

Lemon oil is known to have analgesic, antidepressant, antibacterial, antifungal, antiviral, antiseptic, antispasmodic, carminative, deodorant, digestive, decongestant, febrifuge and tonic properties. Topically applied lemon essential oil stimulates peripheral circulation and relieves joints and muscle pain and promotes musculoskeletal health. Massaged on the upper abdomen, it stimulates digestion and considered an adjuvant in supporting the digestive transit. When massaged in the lower abdomen, it soothes menstrual pain and relieves cramps. Applied on the skin in a proper dilution lemon oil has detoxifying and slightly astringent effects, which are excellent for skin problems such as acne. In the respiratory system lemon essential oil decongests airways and clear sinuses. In aromatherapy lemon oil is deeply soothing to the nervous system, inducing a feeling of contentment. Lemon essential oil is also a great adjuvant in stress-related conditions, such as digestive or skin problems triggered by anxiety and nervousness

### **List of specific therapeutic actions**

Endocrine/reproductive: soothes menstrual pain, attenuates mood swings

Respiratory: clears airways and sinuses, decongestant

Circulatory: stimulates peripheral circulation, protects blood vessels

Immune: tonic, antibacterial, antifungal, antiseptic, antiviral

Musculoskeletal: relieves joints and muscular pain, soothes sore muscles

Topical: balances sebum production, astringent, detoxifying, alleviates juvenile acne, helps in rashes, eczema, psoriasis, alleviates skin conditions associated with stress and anxiety, soothes insect bites, promotes skin and hair health

Nervous: alleviates anxiety, calms nervousness, strengthens nerves, helps in sleeping disorders and insomnia

Energetic: uplifting, cheerful, energizing, elevates spirit, brightens mood, helps in mental fatigue, strengthens the mind, supports creativity, encourages productivity, promotes positive thinking, increases relaxation, fights negative feelings

### **Aromatic profile:**

Scent: fresh, bright, tangy, with sour, citrusy and slightly sweet topnotes

Note: top

Blends well with: clary sage, vetiver, sandalwood, rose, geranium, jasmine, lavender, ylang-ylang, mandarin, orange, grapefruit, bergamot, lemon, cinnamon, clove, ginger

Safety: photo-sensitizing, might be irritant in pure form

### **Ayurveda:**

In Ayurveda lemon is considered cool and pungent, useful in pitta excess. In spiritual healing it is used in conditions associated with anger, excitability, and irritation.

### **Traditional Chinese Medicine:**

In TCM lemon cools nerves, freshens and brightens shen (mind). It balances the Qi and encourages its circulation.

### **Important Scientific Data**

Lemon essential oil is rich in monoterpenes, sesquiterpenes, esters and beneficial alcohols such as alpha-pinene, camphene, sabinene, beta-pinene, myrcene, limonene, linalool, citronellal, nerol, geranial and others. The active ingredients, common amongst the citrus family are very potent and can be aggressive to the skin and human tissue. A high dilution of maximum 1% is always recommended.

The volatile ingredients in lemon essential are very efficient antibacterial, antifungal and antiviral agents, effective even against resilient bacteria and fungi. This makes lemon essential oil ideal for topical and respiratory applications.

The monoterpenes such as sabinene, alpha and gamma pinene have very potent antioxidant and antimutagen properties with great potential in anti-cancer therapy.

The monoterpenic components, such as alpha and beta pinene showed anti-inflammatory effects in vitro, by inhibiting pre-inflammatory cytokines. Alpha pinene also has anti-tumor and anti-mutagenic effects.

A study on aromatherapy as a complementary medical procedure showed that lemon, has a beneficial effect on the cerebrovascular system and is one of the most extensively used in chemotherapy wards.

### **How To Use Lemon Essential Oil:**

Lemon essential oil can be applied (always highly diluted, maximum 1%) topically, as a compress, in the bath, through direct inhalation, or diffuser. However, because it can sensitize the skin a patch test before using undiluted is recommended.

Lemon essential oil is ideal for perfumery blends. It brings freshness and crispiness with citrusy topnotes to the aromatic profile. Wearing lemon will increase productivity and self-confidence.

Add 1 drop of lemon essential oil in a carrier oil or a skin lotion to balance sebum production and address acne (especially juvenile), to reduce skin inflammation and blemishes.

Add 1-2 drops in 1 oz. carrier oil to make a massage oil with great effects in enhancing peripheral circulation and soothing muscles. Gently massage in a clockwise motion on the abdomen to support digestion. Massage on the lower abdomen to soothe menstrual pain.

Add a couple of drops in the bathwater for a relaxing and uplifting experience.

Use 1-2 drops in the diffuser or for direct palm inhalation to uplift spirit and mind, elevate mood, purify atmosphere. Diffuse lemon essential oil both at home and at work, to support creativity and enhance productivity.

### **Lemon Essential Oil Recipes:**

Anti-cellulite blend:

- 2 drops lemon

- 1 drop eucalyptus
- 2 drops cedarwood
- 2 drops cypress
- 2 drops chamomile

Dilute the blend in 3 oz. carrier oil and use on areas with cellulite, vigorously massaging for several minutes.

Emotion balancing blend:

- 5 drops lemon
- 2 drops sandalwood
- 2 drops vetiver
- 4 drops lavender
- 2 drops jatamansi

Dilute the blend in 1 oz. carrier oil for massage.

## **Lemongrass** (*Cymbopogon citratus*)

### **Overview:**

Lemongrass is a perennial, herbaceous, lemon-like flavored member of the Poaceae (grass) family that is native to various parts of South and South-East Asia. Due to its citrusy flavor and herbal consistency lemongrass is extensively used in Asian cuisine.

Therapeutic use of lemongrass, consumed raw or in various forms of preparation has been documented especially in Asian and South-American traditional medicine. It is also a very effective insect repellent. Lemongrass is considered anxiolytic, antidepressant, febrifuge and energizer. Lemongrass is considered to be very good for the skin and currently is extensively used in cosmetics. Scientific studies have also validated the medicinal effects on lemongrass, especially in the digestive and nervous systems.

Lemongrass essential oil is produced through steam distillation out of fresh and dried lemongrass aerial parts. The oil has a pale to bright color, a thin, mobile consistency and a medium to strong potency. Lemongrass essential oil is ideal for topical blends, as it revives tanned skin, helps regenerate skin cells and brightens complexion. In aromatherapy, lemongrass, with its fresh, citrusy yet herbaceous aroma helps fighting depression and anxiety, sharpens the mind, enables focus and clarity and elevates calmness. Due to its citrus-like aromatic profile, and a similar chemical profile lemongrass essential oil is very versatile and can be used as a replacement or complement of the citrus family essential oils.

### **Therapeutic Actions and Benefits:**

Lemongrass oil is known to have analgesic, antidepressant, antiseptic, antispasmodic, antifungal, antiviral, deodorant, digestive, decongestant, febrifuge and tonic properties. Lemongrass essential oil has an affinity for the musculoskeletal system. It is tonic and strengthening for the muscles and ligaments, which makes it ideal for a post-workout massage essential oil. Lemongrass essential oil is slightly cooling and soothing when topically applied. It also boosts peripheral circulation, fights edema and promotes capillary health. In the nervous system, lemongrass stimulates the parasympathetic system, which is particularly useful in balancing endocrine activity and helping the body recovering from illness and convalescence. The active ingredients in lemongrass oil have potent antioxidant activities that are particularly beneficial for prematurely aged

skin, frail hair and weak nails. In aromatherapy it cleanses energies, revitalizes and energizes.

### **List of specific therapeutic actions**

Endocrine/reproductive: soothes menstrual pain, supports endocrine activity

Respiratory: clears airways and sinuses, decongestant

Circulatory: stimulates peripheral circulation, protects blood vessels, promotes capillary health

Immune: tonic, antibacterial, antifungal

Musculoskeletal: relieves joints and muscular pain, soothes sore muscles, tones muscles and ligaments

Topical: balances sebum production, helps in acne, brightens complexion, fights early aging, helps in rashes, eczema, psoriasis, alleviates skin conditions associated with stress and anxiety, helps in athlete's foot, soothes insect bites, insect repellent

Nervous: alleviates anxiety, calms nervousness, strengthens nerves, helps in sleeping disorders and insomnia

Energetic: uplifting, soothing, brightens mood, enables mental focus and clarity, promotes positive thinking, increases relaxation, fights negative feelings

### **Aromatic profile:**

Scent: Lemony, fresh, grassy, herbaceous, citronella-like with a sweet, herbaceous dryout

Note: top to middle

Blends well with: rose, basil, geranium, cedarwood, lavender, eucalyptus

Safety: non-toxic, non-sensitizing, can be dermatotoxic if used undiluted

### **Ayurveda:**

In Ayurveda lemongrass is used to reduce fever and to help recovering from convalescence.

### **Traditional Chinese Medicine:**

In TCM lemongrass relaxes spirits, freshens and harmonizes shen (mind). It balances the Qi and encourages its circulation.

### **Important Scientific Data**

Lemongrass essential oil is rich in monoterpenes, sesquiterpenes, esters and beneficial alcohols such as myrcene, citronellal, geranyl, nerol, geraniol, neral, limonene and citral.

Unlike the citrus family essential oils, lemongrass is not photo-sensitizing, which is particularly useful for persons with sensitive skin.

All the volatile compounds of the essential oil have very potent antibacterial, antifungal and antiviral properties, effective even against resilient bacteria and fungi. In vitro studies showed lemongrass essential oil to be particularly effective against *Candida albicans* and athlete's foot. The monoterpenes and sesquiterpenes in lemongrass essential oil also have antioxidant properties, by scavenging free radicals and promoting cell regeneration. This makes it very suitable for topical applications.

The volatile compounds in lemongrass essential oil have very potent antioxidant and antimutagen properties with great potential in anti-cancer therapy, as it was showed in in-vitro studies.

Lemongrass blends very well with eucalyptus. Studies have shown that they have synergistic effects, enhancing each other's properties and their effectiveness.

#### **How To Use Lemongrass Essential Oil:**

Lemongrass essential oil can be applied (always diluted) topically, as a compress, in the bath, through direct inhalation, or diffuser.

Add a drop of lemongrass essential oil in skin lotion or dilute in witch hazel to support complexion and healthy looking skin. To address nail fungal infection, apply topically in a proper dilution.

Add 1-2 drops in ½ oz. carrier oil to make a massage oil with great effects in enhancing peripheral circulation and soothing muscles. Lemongrass essential oil is ideal for addressing jetlag, promoting peripheral circulation and fighting edema. Gently massage in an clockwise motion on the abdomen to support digestion. Massage on the lower abdomen to soothe menstrual pain.

Add a couple of drops in the bathwater for a relaxing, energizing and cleansing experience. Add 1-2 drops in the foot bath to promote healthy feet and fight athlete's foot.

Use 1-2 drops in the diffuser or for direct palm inhalation to balance energies, support mind-body connection, clean

#### **Lemongrass Essential Oil Recipes:**

Hair and scalp formula:

- 4 drops lemongrass
- 8 drops rosemary
- 2 drops atlas cedar
- 4 drops lavender
- 2 drops peppermint

Dilute the blend in a carrier oil and gently massage on the scalp. The formula can be enhanced by adding 10% argan oil.

Foot soak:

- 3 drops lemongrass
- 6 drops palmarosa
- 3 drops patchouli
- 2 drops tea tree

Dilute the blend in warm water and use as foot bath. It soothes, promotes foot health and fights fungal infections.

## **Lime (*Citrus aurentifolia*)**

### **Overview:**

Lime is a perennial, small sized thorny tree, belonging to the Citrus genus and part of the Rutaceae family. The fruits of the lime tree are lemon-shaped yet smaller, with a greener peel and a different, sweeter and more flavorful aroma. Lime is a cultivar, a citrus hybrid that naturally occurs mainly in South Asia. The lime fruit is rich in vitamin C and is a milder, sweeter alternative for lemon. Lime is extensively used in the food and beverage industry. Preparations of the fruit and its skin have been used therapeutically for ages, and as a dietary supplement helpful against scurvy and helpful in anemia.

The essential oil is pressed out from the fruit peel. It takes several hundred kilograms of peel to produce 1 kilogram of essential oil, depending on the yield. It has olive green color and a thin, mobile texture. Lime essential oil has potent antibacterial, antifungal, antiseptic and antiviral properties. In aromatherapy lime essential oil is balancing, uplifting and warming properties. As most of the citric essential oils it is good in a blend, because it enhances the properties of other oils and goes along with their scents. Pure lime essential oil is aggressive to the skin and can be phototoxic, that is why a high dilution (0.7 - 1%) is recommended for use.

### **Therapeutic Actions and Benefits:**

Lime oil is known to have analgesic, antidepressant, antibacterial, antifungal, antiviral, antiseptic, antispasmodic, carminative, deodorant, digestive, decongestant, febrifuge and tonic properties. Topically applied lime essential oil stimulates peripheral circulation and relieves joints and muscle pain and promotes musculoskeletal health. Massaged on the abdomen, it stimulates digestion and considered an adjuvant in supporting the digestive transit. Applied on the skin in a proper dilution lime oil has detoxifying and astringent effects, which are particularly useful in addressing skin problems such as acne. As any member of the citrus family, lime oil also decongests airways and clear sinuses.

In aromatherapy lime oil is deeply soothing to the nervous system, inducing a feeling of contentment. Lime essential oil also fights stress and anxiety, helps in sleeping disorders and insomnia and promotes a deep, restful sleep. Lime essential oil is also a great adjuvant in stress-related conditions, such as digestive or skin problems triggered by anxiety and nervousness

### **List of specific therapeutic actions**

Endocrine/reproductive: soothes menstrual pain, attenuates mood swings

Respiratory: clears airways and sinuses, decongestant

Circulatory: stimulates peripheral circulation, protects blood vessels

Immune: tonic, antibacterial, antifungal, antiseptic, antiviral

Musculoskeletal: relieves joints and muscular pain, soothes sore muscles

Topical: balances sebum production, astringent, detoxifying, alleviates juvenile acne, helps in rashes, eczema, psoriasis, alleviates skin conditions associated with stress and anxiety, soothes insect bites, promotes skin and hair health

Nervous: alleviates anxiety, calms nervousness, strengthens nerves, helps in sleeping disorders and insomnia

Energetic: uplifting, energizing, elevates spirit, brightens mood, helps in mental fatigue, strengthens the mind, supports creativity, promotes positive thinking, increases relaxation, fights negative feelings

### **Aromatic profile:**

Scent: citrusy, fresh, sweet, slightly tart, bright, zesty

Note: top

Blends well with: clary sage, vetiver, sandalwood, rose, geranium, jasmine, lavender, ylang-ylang, mandarin, orange, grapefruit, bergamot, lemon, cinnamon, clove, ginger

Safety: photo-sensitizing, might be irritant in pure form

### **Ayurveda:**

In Ayurveda lime is considered cool and pungent, useful in pitta excess. In spiritual healing it is used in conditions associated with anger, excitability, and irritation.

### **Traditional Chinese Medicine:**

In TCM lime cools spirits, freshens and brightens shen (mind). It balances the Qi and encourages its circulation.

### **Important Scientific Data**

Lime essential oil is rich in monoterpenes, sesquiterpenes, esters and benifc alcohols such as alpha-pinene, camphene, sabinene, beta-pinene, myrcene, limonene, linalool, citronellal, nerol, geranial and others. The active ingredients, common amongst the citrus family are very potent and can be aggressive to the skin and human tissue. A high dilution of maximum 1% is always recommended as well as a precaution to photosensitive persons.

The volatile ingredients in lime essential are very efficient antibacterial, antifungal and antiviral agents, effective even against resilient bacteria and fungi. This makes lime essential oil ideal for topical applications.

The monoterpenes and sesquiterpenes have very potent antioxidant and antimutagen properties with great potential in anti-cancer therapy, as it was showed in in-vitro studies.

The monoterpenes such as sabinene, alpha and gamma pinene have very potent antioxidant and antimutagen properties with great potential in anti-cancer therapy. Studies also shown that volatile ingredients in citrus essential oils have potent anti-inflammatory effects, with relevant effects in inhibiting pre-inflammatory cytokines.

### **How To Use Lime Essential Oil:**

Lime essential oil can be applied (always highly diluted, maximum 1%) topically, as a compress, in the bath, through direct inhalation, or diffuser. However, because it can sensitize the skin a patch test before using undiluted is recommended.

Add 1 drop of lime essential oil in a carrier oil or a skin lotion to balance sebum production and address acne (especially juvenile), to reduce skin inflammation and blemishes. Add 1-2 drops in 1 oz. carrier oil to obtain massage oil with great effects in enhancing peripheral circulation and soothing muscles. Gently massage in a clockwise motion on the abdomen to support digestion. Massage on the lower abdomen to soothe menstrual pain.

Add a couple of drops in the bathwater for a relaxing, uplifting, aura cleansing experience.

Use 1-2 drops in the diffuser or for direct palm inhalation to uplift spirit, enlighten mind, elevate mood, clean and detoxify atmosphere.

### **Lime Essential Oil Recipes:**

#### Mental Clarity:

- 4 drops lime
- 2 drops tulsi
- 2 drops peppermint

Diffuse the blend.

#### Meditation blend:

- 4 drops lime
- 4 drops frankincense
- 1 drop patchouli
- 4 drops sandalwood

Dilute the blend in ½ oz. carrier oil (jojoba) and use it as a soothing and relaxing massage or anointing oil.